

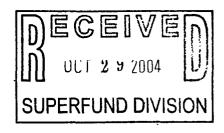
STATE OF MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY LANSING

EPA Region 5 Records Ctr.



October 26, 2004

Mr. Richard C. Karl, Acting Director Superfund Section United States Environmental Protection Agency Region 5 77 West Jackson Boulevard (SR-6J) Chicago, IL 60604-3590



Dear Mr. Karl:

SUBJECT: Dam Safety Inspection Reports for the State-owned Dams on the Kalamazoo River

Enclosed for your information and dissemination to appropriate staff are the recent Dam Safety Inspection Reports completed by Camp, Dresser, & McKee (CDM) for the three state-owned dams located within the Allied Paper/Portage Creek/Kalamazoo River Superfund site. An electronic version is also being provided with the written reports. As indicated in the reports, the dams are in poor to very poor condition, and all lack the necessary spillway capacity. Also enclosed is a recent briefing paper prepared by the Land and Water Management Division (LWMD) of the Michigan Department of Environmental Quality (MDEQ), which has been used to update the Michigan Department of Natural Resources (MDNR) and MDEQ management team members on the status of the dams. The LWMD plans to issue an order to the MDNR that requires them to rectify the unsafe condition of the dams.

The MDEQ is actively working with the MDNR on resolving their obligations with respect to the dams. As you can see from the conclusions in the LWMD briefing, timing of this issue is urgent. Given the time-critical nature of this decision, please keep in mind that Michigan may not have the flexibility to utilize the ongoing facilitated process to evaluate how actions at the dams may fit into a larger remedial process. However, the MDEQ hopes that in keeping with the recommendations of the Contaminated Sediment Technical Advisory Group, the United States Environmental Protection Agency (U.S. EPA) will "...work with MDNR on issues with regard to financing dam removal and/or maintenance and on coordinating sediment management as part of any dam project." Further, the MDNR and MDEQ recognize that the U.S. EPA needs to approve any planned work related to the dams, due to their location within the Superfund site.

If you have any questions regarding the provided enclosures, please feel free to contact me. In the meantime, the State of Michigan will continue to move forward with addressing its obligations for the dams under state and federal statutes.

Sincerely,

Andrew W. Hogarth, Chief

Remediation and Redevelopment Division

517-335-1104

Enclosures

cc: Mr. Todd King, CDM

Ms. Arminda Koch, MDNR

Ms. Sharon Hanshue, MDNR

Mr. Jim Sygo, Deputy Director, MDEQ

Mr. Stanley Pruss, Deputy Director, MDEQ

Mr. David Hamilton, MDEQ

Ms. Elizabeth M. Browne, MDEQ

Mr. Byron Lane, MDEQ

Ms. Daria W. Devantier, MDEQ

Mr. Paul Bucholtz, MDEQ

BRIEFING ON STATE OWNED DAMS ON THE KALAMAZOO RIVER

Issue

A consulting engineer submitted the required dam safety inspection report for the Trowbridge, Otsego, and Plainwell #1 Dams to the Department of Environmental Quality (DEQ) in August 2004. The engineer found the structural conditions are critically deficient, and the spillway capacities are seriously inadequate. These problems require immediate action. The dams are regulated by the Land and Water Management Division (LWMD) pursuant to Part 315, Dam Safety, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Part 315). The remedy for alleviating the dam safety issue is intertwined with the problem of remediating contaminated sediments in the impoundments and downstream river reaches.

Background

All three dams are owned by the Michigan Department of Natural Resources (DNR). These dams are located within the Kalamazoo River Superfund site. Sediments within each dam's impoundment and the river reaches between the dams are contaminated with PCBs. The method to mitigate this contamination is being investigated by the Potentially Responsible Parties (PRPs), the Environmental Protection Agency (EPA), and the Remediation and Redevelopment Division (RRD) of the Department of Environmental Quality (DEQ). Progress is extremely slow. The lead agency responsible for determining the mitigation of these contaminants is the EPA. A fourth dam in the Superfund site, the Otsego City Dam (or Menasha Dam) is not part of this discussion; it was repaired earlier this year.

Interim repairs were completed on each dam in April 2001 at a combined cost of approximately \$415,000 plus engineering design services. The design life for these repairs is 5 years. Only about 1.5 years remains of the design life. An interim repair solution was chosen, since the DNR desires to remove these dams, but removal of the dams without remediating the contaminated sediments is considered to be impractical.

Inspection reports for each dam were recently submitted per the requirements of Part 315 by an engineering consultant. The report for Plainwell Dam #1 states that it is in poor condition. The reports for Otsego and Trowbridge Dams state they are in "very poor" condition.

The Plainwell Dam has inadequate slope protection and significant erosion in several locations due to overtopping. The Otsego Dam has sinkholes caused by water seepage through the dam, suspected undermining compromising the foundation piles, cracks in the spillway concrete, and broken-off sections of the apron. It appears that the pile foundation support below the apron is deteriorating, and the dam has inadequate slope protection. The downstream apron and training walls of the Trowbridge Dam have largely broken

away, a hole is in the spillway, and a sinkhole is on top of the dam, indicating potential for undermining. The dam has inadequate slope protection, which has resulted in recent sloughing. All three dams have seriously deteriorated concrete and inadequate spillway capacity. Conditions exist at each of the dams which endanger the dams.

Failure of these dams will cause the mobilization and downstream transportation of large quantities of contaminated sediments. These reports state that if the dams are not removed in the very near future, they should essentially be rebuilt.

No detailed cost estimates are available for either repair or removal of these dams. It is expected that the removal costs will exceed \$2 million for each dam, not including the costs associated with contamination cleanup. While repair of these dams may cost less in the short term, the substantial costs of continuing maintenance and continuing liability to the State of Michigan must be considered in any discussion of which option is more fiscally responsible.

Conclusion

These reports clearly indicate that these dams are unsafe, and the consequences of dam failure are harm to the environment of the Kalamazoo River and the users of this river. Maintaining the "status quo" and doing nothing about the conditions of these dams is not an appropriate option. The state must be prepared to begin removal or rebuilding the dams by the time the interim repair design life is completed in spring 2006. Engineering design plans, permits and funding must all be in place during fiscal year 2006. The budget process for FY 06 begins late this year, so fundamental discussions on the future of the dams must be made in the next few months.

Recommendation

The DEQ's responsibility in this matter per the provisions of Section 31518(7) of Part 315 is clear. The authority to issue the order is delegated to the Land and Water Management Division Chief. We must issue an order to the owner of these dams to alleviate the unsafe conditions of these dams.

Prepared by: David A. Hamilton, P.E., Chief, Water Management Section

Land and Water Management Division

Michigan Department of Environmental Quality

September 3, 2004